

## RIVER STAGES AND FLOODS FOR JUNE 1946

By C. R. JORDAN

[NOTE.—The May flood in the Susquehanna River will be covered in the July issue of the REVIEW.]

Precipitation during June was generally light over the western half of the country except in northeastern Wyoming, western South Dakota, and the far Northwest. Less than the usual amounts were recorded also in central Virginia, western Carolinas, northern Tennessee, and southern Kentucky. Rainfall was particularly heavy in sections of Alabama, Ohio, southeastern Pennsylvania, northeastern Wyoming, western South Dakota, and on the Washington coast.

Floods over relatively small areas as the result of intense local storms were reported in Iowa, Wisconsin, and Wyoming. Drought conditions continued in the Southwest and spread to include a larger portion of Utah and Colorado.

*Floods in northern Wisconsin.*—Maximum floods occurred in the smaller tributaries draining into Lake Superior, principally the Bad and White Rivers in Ashland County, extending southward to Butternut, Wis., in that county. The Official in Charge, Weather Bureau Office, La Crosse, Wis., reports as follows regarding the floods:

These floods, occurring June 24–25, appeared following a 4-day period of excessive rainfall, including a belt about 75 miles wide from north-central Minnesota extending southeastward into extreme upper Wisconsin River Valley. These excessive rains were associated with frontal thunderstorms and were augmented by the presence of maritime Gulf air mixing with the cold air from Lake Superior. At the time of the Ashland County flood, the soil had become well saturated from rains occurring generally over Wisconsin and Minnesota on June 17. Damage in the Ashland County flood and also in some sections of Bayfield County has been estimated at nearly \$3,000,000. The main item of damage in the Bad and White River basins was property loss, including buildings, factories, bridges, and railroads. Several stations reported rainfall of over 8 inches within 48 hours.

No gaging stations are operated in either Ashland or Bayfield County, and the exact heights reached by the flood waters are not known.

*Atlantic Slope drainage.*—Heavy rain fell over eastern Pennsylvania on June 1–2, with the heaviest precipitation over Perkiomen Creek watershed. A stage of 16.2 feet, only 2 feet below the all-time record on July 9, 1935, resulted at Graterford, Pa. There was considerable damage to summer cottages and losses resulting from deposits of silt and debris on railroads. The main loss in the entire basin was the refilling of much of the section of the stream in the Philadelphia area that had recently been dredged.

There was some overflow of lowlands along the Monocacy River near Frederick, Md., but no serious damage resulted.

*East Gulf of Mexico drainage.*—There was some light overflow at a few stations in the East Gulf States. Heavy rainfall the first of the month caused further rises on the Pearl River, which was still above flood stage from the May rains. No further damage resulted.

*Mississippi System.*—Intense local storms caused floods over comparatively small areas in northern Wisconsin, southern Iowa, and northern Wyoming.

A center of excessive rainfall occurred in the Root and Crooked Creek Valleys in Houston County, Minn., on June 16–17, and produced damaging floods in these valleys, the greater damage occurring in Crooked Creek

Valley extending from Caledonia, Minn., eastward 8 miles to a point where it opens into the Mississippi River.

Floods of a minor nature occurred in the lower Chippewa Valley June 28–29, and in the extreme upper Wisconsin Valley near Merrill, Wis., on the 26th, as a result of heavy rainfall in extreme northern Wisconsin from the 24th to 26th, inclusive. In this 3-day period the rainfall over the northern fork of the Flambeau River averaged 5 inches, with gradually increasing amounts northward to Lake Superior, where over 10 inches must have fallen to produce the flood volume reported. The U. S. Geological Survey reports that the Flambeau River near Ladysmith, Wis., had a peak flow of 19,200 c. f. s., the greatest since 1922.

Extremely heavy rainfall, centering in Van Buren, Davis, and Lee Counties in southeastern Iowa, caused high stages in the streams of this area. Considerable flood damage was reported in the Fox and Chariton River basins. The discharge of the Des Moines River at Keosauqua, Iowa, was the greatest of record since 1903.

A severe flash flood occurred in Goose Creek Basin near Big Horn and Sheridan, Wyo., destroying several bridges and causing considerable property damage. Unofficial measurements of rainfall indicate amounts of 6 inches or more, most of which fell in a period of less than an hour.

Light overflow occurred at several widely scattered points throughout the Mississippi Valley, but no general flooding occurred over any great area. A tabulation of the stations at which flood stage was exceeded may be found at the end of this report.

*West Gulf of Mexico drainage.*—There was moderate flooding along the Sabine River most of the month. Considerable damage or loss was caused by the flood waters to bridges, fences, roads, buildings, oil field machinery, etc. There was also some suspension of logging and farming activities due to high water.

The rain of late May in the upper Trinity River basin caused rather severe floods that carried over into June. The flood crest flattened out as it moved downstream, and overflow was less severe in the middle and lower reaches of the stream.

There was some overflow of other streams at a few points in eastern Texas, but no serious damage resulted.

*Pacific Slope drainage.*—Streams in the Columbia River basin gradually receded during June from the annual peaks that occurred late in May or on the first of June.

Local flooding was reported in the Snohomish Valley from Monroe to Everett, Wash., as a result of heavy rains at the lower elevations and melting snows in the higher areas. Considerable damage, mostly to growing crops, was caused by the overflow.

*Flood at Bethel, Alaska.*—There was some flooding of lowlands along the lower Kuskokwim River during the last week of May. The village of Akiak was flooded and badly damaged by ice action, the ice jam extending 8 to 10 miles downstream. On the night of May 25, the jam below Akiak was bombed, and immediately thereafter the water began to recede at Akiak. The following afternoon a solid ice cake about a square mile in area stuck in a curve of the river just at Bethel village. The water rose rapidly and the airport at Bethel was flooded. Some equipment was washed away from the field or damaged by the water and ice.

## FLOOD STAGE REPORT FOR JUNE 1946

[All dates in June unless otherwise specified]

River and station	Flood stage	Above flood stages— dates		Crest <sup>1</sup>	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
	<i>Feet</i>			<i>Feet</i>	
Chenango: Sherburne, N. Y. ....	8	11	11	8.1	11
Chemung: Chemung, N. Y. ....	12	2	3	13.3	3
Susquehanna:					
Oneonta, N. Y. ....	12	2	3	13.2	3
Vestal, N. Y. ....	14	3	3	14.0	3
Roanoke:					
Williamston, N. C. ....	10	May 21	3	10.6	May 26
Lock No. 2, Elizabethtown, N. C. .	20	24	24	20.6	31 24
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla. .	15	May 17	12	20.6	May 24
Choctawhatchee: Caryville, Fla. .	12	4	6	12.6	5
Tombigbee: Lock No. 3, Ala. ....	33	3	6	35.2	5
Pearl:					
Jackson, Miss. ....	18	May 19	11	27.4	May 27
Monticello, Miss. ....	15	1	4	16.0	2
Pearl River, La. ....	12	May 16	15	14.9 14.3	May 22 3
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Chippewa: Durand, Wis. ....	11	27	29	12.2	28
Root: Houston, Minn. ....	15	17	17	15.5	17
Wisconsin: Merrill, Wis. ....	11	25	26	11.5	25
Illinois:					
Peru, Ill. ....	17	21	21	17.1	21
Havana, Ill. ....	14	20	July 1	15.6	23-24
Beardstown, Ill. ....	14	21	July 4	16.7	25
Mississippi: Fort Ripley, Minn. .	10	29	July 7	10.8	30
Missouri Basin					
Solomon: Beloit, Kans. ....	18	{ 1 20	1 22	18.0 20.5	1 21-22
Grand: Chillicothe, Mo. ....	18	20	21	23.4	20
Osage: Quenemo, Kans. ....	30	20	21	32.0	21
Ohio Basin					
Allegheny: Olean, N. Y. ....	10	{ May 28 2	May 31 2	17.3 10.2	May 29 2
Hocking: Athens, Ohio ....	17	20	20	17.0	20
Oleutangy: Delaware, Ohio ....	9	18	20	10.0	20
Scioto:					
LaRue, Ohio. ....	11	18	19	12.8	18
Prospect, Ohio. ....	10	17	21	12.1	19
Circleville, Ohio. ....	14	18	22	17.3	19
Chillicothe, Ohio. ....	16	19	22	18.4	19
Piketon, Ohio. ....	16	18	22	20.6	20
Licking: Falmouth, Ky. ....	28	18	18	28.1	18
Wabash:					
Bluffton, Ind. ....	10	May 29	May 31	11.2	May 30
Terre Haute, Ind. ....	14	20	23	15.2	21
Ohio: Dam No. 7, Midland, Pa. .	30	3	3	30.1	3
White Basin					
Black:					
Black Rock, Ark. ....	14	May 2	14	23.6	1
Pocahontas, Ark. ....	17	May 18	10	21.7	May 29
White:					
Newport, Ark. ....	26	May 19	5	30.0	May 30
Augusta, Ark. ....	32	May 19	11	34.9	May 31
Georgetown, Ark. ....	21	May 20	17	27.4	1
Des Arc, Ark. ....	24	May 24	15	29.9	2-3
Clarendon, Ark. ....	26	May 8	25	31.4	4-6
St. Charles, Ark. ....	25	May 16	26	29.5	7-9
Arkansas					
Cottonwood:					
Cottonwood Falls, Kans. ....	9	19	20	11.5	19
Emporia, Kans. ....	20	20	22	23.7	21
Neosho:					
Neosho Rapids, Kans. ....	22	20	22	26.5	20
Burlington, Kans. ....	27	21	23	29.8	22
LeRoy, Kans. ....	23	23	23	23.1	23
Iola, Kans. ....	15	24	24	15.0	24

## FLOOD STAGE REPORT FOR JUNE 1946—Continued

[All dates in June unless otherwise specified]

River and station	Flood stage	Above flood stages— dates		Crest <sup>1</sup>	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM—con.					
Red Basin					
Ouachita: Camden, Ark.-----	Feet 26	May 19	6	Feet 36.9	May 29
Little: Whitecliffs, Ark.-----	25	May 27		27.1	May 28
Sulphur:-----				39.5	May 18
Hagansport, Tex.-----	38	May 15	6	41.0	May 20
				20.6	May 24
				41.4	2
				27.0	May 21
Naples, Tex.-----	22	May 16	12	27.5	May 24
				28.6	May 28
				29.4	4
Cypress: Jefferson, Tex.-----	18	May 19	10	20.4	May 21
				22.2	May 26
Red: Alexandria, La.-----	32	4	12	23.6	5
				33.4	9
Lower Mississippi Basin					
St. Francis:					
				23.3	May 6-
				7.22	
Fisk, Mo.-----	20	May 2	9	23.4	May 25,
				29	
				23.2	2
				20.8	May 8-
				9	
St. Francis, Ark.-----	18	May 5	15	20.9	May 11-
				12	
				21.5	May 27-
				29	
Atchafalaya Basin					
Atchafalaya:					
Atchafalaya, La.-----	25	May 31	7	25.6	3-5
Morgan City, La.-----	6	1	1	6.6	1
WEST GULF OF MEXICO DRAINAGE					
Whiskey Chitto Creek: Mittie, La.-----	15	3	3	16.8	3
Calcasieu: Kinder, La.-----	16	2	4	17.2	3
		9	11	17.2	10
Sabine:					
Mineola, Tex.-----	14	May 14	9	20.6	2
Gladewater, Tex.-----	26	May 22	15	38.8	5
Tatum, Tex.-----	25	7	8	28.2	7-8
Logansport, La.-----	25	May 30	25	35.2	13
Milan, Tex.-----	30	6	30	39.8	22
				20.3	2.3
Bon Wier, Tex.-----	17	May 29	(2)	18.4	10
				19.8	28
Neches: Evadale, Tex.-----	16	5	11	16.3	9
Elm Fork: Carrollton, Tex.-----	6	May 29	5	13.0	1
East Fork: Rockwall (nr.), Tex.-----	10	May 28	5	17.6	1
		21	21	11.2	21
Trinity:					
Dallas, Tex.-----	28	May 29	8	40.3	May 30
				40.6	2
Rosser (nr.), Tex.-----	26	May 30	13	39.4	5
Trinidad, Tex.-----	28	May 29	16	43.8	7
Long Lake, Tex.-----	40	6	18	44.8	10
Midway, Tex.-----	40	13	22	44.0	16
Liberty, Tex.-----	24	1	29	26.8	5-6
				27.4	25-26
Rio Grande:					
Del Rio, Tex.-----	15	23	24	21.0	23
Eagle Pass, Tex.-----	16	24	24	18.0	24
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Willamette: Portland, Oreg.-----	18	May 22		20.9	1
Columbia:					
The Dalles, Oreg.-----	40	May 11		44.1	May 29
Vancouver, Wash.-----	15	May 9	(2)	21.4	1

<sup>1</sup> Provisional.<sup>2</sup> Continued at end of month.